

PATENT APPLICATION TRANSMITTAL LETTER

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:

Transmitted herewith for filing is the patent application of:

Guy Levit, Noam Camiel, Eli David and Gil Shapira

for MOBILE STATION (MS) MESSAGE SELECTION IDENTIFICATION SYSTEM

Enclosed are:

- (X) 14 pages of specification and claims.
- (X) Abstract
- (X) 2 sheet(s) of Formal Drawings.
- (X) Declaration and Power of Attorney
- (X) Statement to establish small entity status of
Small Business Concern under 37 CFR 1.9 and 1.27.
- () Information Disclosure Statement
- (X) Assignment and Assignment Recordation
- () Preliminary Amendment
- () A check in the amount of \$_____ to cover the filing fee.
- (X) Any filing fees or presentation of extra claim
fees may be charged to Deposit Account No. 05-0649
(Eitan, Pearl, Latzer & Cohen-Zedek)

CLAIMS AS FILED

SMALL ENTITY

OTHER THAN A
SMALL ENTITY

FOR	# FILED	# EXTRA	RATE	FEE	OR	RATE	FEE
BASIC FEE				\$380.00			\$760.00
TOTAL CLAIMS	14-20		x\$ 9	\$		x\$ 18=	\$
INDEP. CLAIMS	2-3		x\$ 39	\$		x\$ 78=	\$
MULTIPLE DEP. CLAIM PRESENT			x\$130=	\$		x\$260=	\$
				\$380.00		TOTAL	\$

Respectfully submitted,



John L. Welsh

Registration No. 33,621

AQUILINO, WELSH & FLAXMAN, P.C.
2341 Jefferson Davis Hwy., Ste. 112
Arlington, VA 22202
(703) 920-1122
Docket No. P-2853-US

1c525 U.S. PTO
09/448180
11/24/99

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application) PATENT APPLICATION
Inventor(s): Guy LEVIT; Noam CAMIEL;)
Eli DAVID; and Gil SHAPIRA)
Application No.: Not yet known)
Filed: Herewith)
Title: MOBILE STATION (MS) MESSAGE SELECTION IDENTIFICATION
SYSTEM

VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS
37 C.F.R. § 1.9(f) AND 1.27(c) - SMALL BUSINESS CONCERN

I hereby declare that I am:

___ The owner of the small business concern identified below.

___ An official of the small business concern empowered to act on behalf of the concern identified below.

Name: **TELEMESSAGE LTD.**

Address: **3 Simtat Magal Street, P.O.Box 87, Savlon 56530, Israel**

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 C.F.R. § 121.12, and reproduced in 37 C.F.R. § 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35 U.S.C. in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified below with regard to the invention entitled:

MOBILE STATION (MS) MESSAGE SELECTION IDENTIFICATION SYSTEM

by inventor(s): **Guy LEVIT; Noam CAMIEL; Eli DAVID; and Gil SHAPIRA**

described in:

 X the Specification filed herewith
 Application SC/Serial No. filed

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 C.F.R. § 1.9(d) or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

NAME: _____

ADDRESS: _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small business entity is no longer appropriate. (37 C.F.R. § 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Person Signing: X Guy Levit

Title of Person Signing: X CEO

Address of Person Signing: X 8 Moshe Valensky, Tel Aviv 66098, Israel

Signature: X Guy Levit Date: X 22/11/99

* Note: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. § 1.27).

Title 37, Code of Federal Regulations, § 1.9(c-f)

(c) An independent inventor as used in this chapter means any inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section

which would not qualify as a small business concern or a nonprofit organization under this section. For the purpose of this section concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both. The number of employees of the business concern is the average over the fiscal year of the persons of the fiscal year. Employees are those persons employed on a full-time, part-time or temporary basis during the previous fiscal year of the concern.

(d) A small business concern as used in this chapter means any business concern as defined by the Small Business Administration in 13 CFR 121.12. For the convenience of the users of these regulations, that definition states:

121.12 Small business for paying reduced patent fees. (a) Pursuant to Pub. L. 97-247, a small business concern for purposes of paying reduced fees under 35 U.S. Code 41 (a) and (b) to the Patent and Trademark Office means any business concern (1) whose number of employees, including those of its affiliates, does not exceed 500 persons and (2) which has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern

(e) A nonprofit organization as used in this chapter means (1) a university or other institution of higher education located in any country; (2) an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)(3)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)); (3) any nonprofit scientific or educational organization qualified under a nonprofit organization statute of a state of this country (35 U.S.C. 201(i)); or (4) any nonprofit organization located in a foreign country which would qualify as a nonprofit organization under paragraphs (e)(2) or (3) of this section if it were located in this country.

(f) A small entity as used in this chapter means an independent inventor, a small business concern or a nonprofit organization.

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TITLE OF THE INVENTION

Mobile Station (MS) message selection identification system.

FIELD OF THE INVENTION

The present invention relates to telecommunications in general, and more particularly to a system for identifying a message selection at a mobile station (MS).

BACKGROUND OF THE INVENTION

Cellular telephone communications protocols, such as the Short Message Service (SMS), also known as PCS Messaging, Text Messaging, Voice Mail Plus, Cellular Message Teleservice (CMT), and Cellular Alpha Paging, allow for the transmission of short text-only messages to a cellular telephone, referred to herein as a mobile station (MS). In the SMS protocol a telephone number may be attached to an SMS message that is sent to an MS, allowing the recipient of an SMS message to reply to the message, either by dialing the telephone number indicated, or, in some implementations, simply by pressing the "SEND" button or otherwise initiating a telephone call from the MS without dialing the telephone number. In those implementations that support it, initiating a telephone call while displaying an SMS message to which a telephone number has been attached will cause the telephone number to be automatically dialed.

Some commercial message services employ known computer telephony integration (CTI) techniques to enable a subscriber to receive voice mail, email, and other types of messages at a central computer server which then forwards notifications of the arrival of such messages to the subscriber's MS in the form of SMS messages. The SMS message may simply be a generic notification that a message has been received for the subscriber at the server, or may contain a portion of the message in a text format, aiding the subscriber in identifying the sender and/or determining the message's importance to the subscriber. In order to hear the full message the

subscriber may then call the message service by dialing a telephone number known to the subscriber or, where the telephone number of the message service is attached to each SMS message, by pressing the "SEND" button or otherwise initiating the call as described above.

Once the message service has been contacted, the subscriber must identify the message that the subscriber wishes to hear. This may be done by reading the content of the SMS message to a operator or by navigating an automated menu system that is responsive to voice commands or dual tone multi-frequency (DTMF) signals. In the case of an automated menu system, the subscriber generally must listen to a portion of each message received and then provide an indication whether or not the subscriber wishes to hear the complete message. Where lots of SMS message notifications are received at an MS, navigating such a menu system is tedious and time-consuming.

SUMMARY OF THE INVENTION

The present invention seeks to provide a system for identifying a message selection made at a mobile station (MS) that overcome disadvantages of the prior art described hereinabove. A system is provided whereby a unique telephone number is attached to each message sent to an MS from a central server. Each telephone number connects the subscriber to the central server along a different telephone line. When the subscriber presses the "SEND" button or otherwise initiates the call the telephone number which is attached to the currently-displayed message is automatically dialed. By identifying the telephone number of the telephone line on which the incoming call is received, and by identifying the telephone number of the subscriber using automatic number identification (ANI) techniques, the server may identify the message that is currently displayed on the subscriber's MS without receiving further input by the subscriber. The full message associated with the identified message may then be provided to the subscriber via audio link. In this manner a subscriber may hear the full message associated with a currently-displayed message simply by pressing the "SEND" button or otherwise initiating a call.

There is thus provided in accordance with a preferred embodiment of the present invention a method for identifying a message selection made at a mobile station (MS), the method including the steps of uniquely associating an inbound telephone number with a message, attaching the inbound telephone number to the message, sending the message and the attached inbound telephone number to an MS using an MS telephone number associated with the MS, maintaining a unique association between the message, the inbound telephone number, and the MS telephone number, selecting the message at the MS, calling from the MS the inbound telephone number attached to the selected message, identifying the inbound telephone number of the telephone call, identifying the MS telephone number of the telephone call, and identifying the message associated with the inbound telephone number and the MS telephone number, thereby identifying the message selection made at the MS.

Further in accordance with a preferred embodiment of the present invention the uniquely associating step includes uniquely associating a different inbound telephone number with each of a plurality of messages destined for the MS.

Still further in accordance with a preferred embodiment of the present invention the selecting step includes displaying the message on a display.

Additionally in accordance with a preferred embodiment of the present invention the calling step includes activating a calling mechanism at the MS which automatically dials the inbound telephone number attached to the selected message.

Moreover in accordance with a preferred embodiment of the present invention the inbound telephone number step includes determining via which telephone line the telephone call is received and identifying the inbound telephone number associated with the telephone line.

Further in accordance with a preferred embodiment of the present invention the identifying the MS telephone number step includes identifying using Automatic Number Identification (ANI).

Still further in accordance with a preferred embodiment of the present invention the message is a Short Message Service (SMS) message.

There is also provided in accordance with a preferred embodiment of the present invention a method for outputting an underlying message based on the identification of an associated message, the method including the steps of creating an associated message identifying an underlying message, uniquely associating an inbound telephone number with the associated message, attaching the inbound telephone number to the associated message, sending the associated message and the attached inbound telephone number to an MS using an MS telephone number associated with the MS, maintaining a unique association between the underlying message, the inbound telephone number, and the MS telephone number, selecting the associated message at the MS, calling from the MS the inbound telephone number attached to the selected message, identifying the inbound telephone number of the telephone call, identifying the MS telephone number of the telephone call, identifying the underlying message associated with the inbound telephone number and the MS telephone number, and outputting the underlying message.

Further in accordance with a preferred embodiment of the present invention the creating step includes forming the associated message from any of a body portion and a header portion of the underlying message.

Still further in accordance with a preferred embodiment of the present invention the creating step includes forming the associated message using optical character recognition (OCR) on a printed form of the underlying message.

Additionally in accordance with a preferred embodiment of the present invention the creating step includes forming the associated message using speech-to-text conversion on a spoken form of the underlying message.

Moreover in accordance with a preferred embodiment of the present invention the outputting step includes performing text-to-speech conversion on the underlying message.

Further in accordance with a preferred embodiment of the present invention the outputting step includes playing an audio recording of the underlying message.

Still further in accordance with a preferred embodiment of the present invention the associated message is a Short Message Service (SMS) message.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the appended drawings in which:

Fig. 1 is a simplified illustration of a system for identifying a message selection at a mobile station (MS), constructed and operative in accordance with a preferred embodiment of the present invention; and

Fig. 2 is a simplified flowchart illustration of a method of operation of the system of Fig. 1, operative in accordance with a preferred embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Reference is now made to Fig. 1 which is a simplified illustration of a system for identifying a message selection at a mobile station (MS), constructed and operative in accordance with a preferred embodiment of the present invention. Although the preferred embodiment is described with particular reference to the SMS messaging protocol, it is appreciated that the present invention may be applied to any messaging protocol which allows for a telephone number to be attached to a message and which allows the telephone number to be automatically dialed as described hereinbelow. In the system of Fig. 1 a server 10 is provided to receive messages 12 destined for a subscriber at a mobile station (MS) 14. Messages 12 may be email messages, voice mail messages, SMS messages, ICQ messages, fax messages, or any other kind of text, graphic, or audio message, or any combination thereof. Server 10 may receive messages 12 using any suitable means known in the art, such as by telephonic connection to server 10, or via a network, such as the

Internet. Each message 12 typically includes the telephone number of MS 14 and/or an identifier associated with MS 14's telephone number as maintained by server 10.

Server 10 preferably creates an SMS message for each message 12 received. The SMS message may be a generic message indicating simply that a message has been received, or may include a portion of the message header where there is one, a portion of the message body, or a combination thereof. Where message 12 is a voice message, speech-to-text conversion may be used to create the SMS text message from message 12 using conventional techniques. Where message 12 is a fax message, optical character recognition (OCR) may be used to create the SMS text message from message 12 using conventional techniques. Once an SMS message is created, a telephone number, referred to herein as an inbound telephone number, is attached to the SMS message. The inbound telephone number is uniquely associated with the SMS message in that no two SMS messages destined for MS 14 will have the same inbound telephone number attached to it. Each SMS message, together with its attached inbound telephone number, is then typically sent to MS 14 via a cellular telephone network 16 using MS 14's telephone number which is identified as described hereinabove. In Fig. 1 three SMS messages 18, 20, and 22 are shown being sent from server 10 to MS 14 via network 16.

Server 10 preferably maintains a unique association between each underlying message 12 and/or its associated SMS message, the inbound telephone number attached to the SMS message, and the telephone number of the MS to which the SMS message is sent in a table 24, where each record preferably comprises an MS telephone number 26, an inbound telephone number 28, and a message identifier 30.

SMS messages received at MS 14 are typically viewed on a display 32. In a preferred embodiment a subscriber "selects" an SMS message whose associated underlying message the subscriber wishes to hear in full by presenting the SMS message for viewing on display 32. The subscriber then initiates a call from MS 14, such as by pressing a "SEND" button 34. MS 14 preferably automatically dials the inbound telephone number attached to the selected SMS message,

being 555-1020 of SMS message 22 in the illustration. The incoming call, represented at reference numeral 36, is then received at server 10. The inbound telephone number of the incoming call may be identified by server 10 as the inbound telephone number is already known by server 10 to be associated with that particular incoming telephone line. The telephone number of the incoming call may be determined using conventional caller ID techniques such as Automatic Number Identification (ANI).

Thus, having determined the inbound telephone number of the incoming call, being 555-1020 in the illustration, and the telephone number of the caller, being the telephone number of MS 14 in the illustration, the SMS message selected at MS 14 is, in effect, identified, and, therefore, the underlying message associated with the selected SMS message may be identified in table 24 and output to MS 14, as is shown at reference numeral 38, as an audio message, using conventional text to-speech techniques as necessary to convert message 12 where message 12 is a text message. Then, in accordance with conventional message playback systems, the message may be replied to, forwarded, etc.

Reference is now made to Fig. 2 which is a simplified flowchart illustration of a method of operation of the system of Fig. 1, operative in accordance with a preferred embodiment of the present invention. In the method of Fig. 2, a message bound for a subscriber is received (step 100) and an SMS message associated with the underlying received message is created (step 110). A unique inbound telephone number is attached to the SMS message (step 120) and the unique association between the subscriber's telephone number, the inbound telephone number attached to the SMS message, and the underlying message is stored in a table (step 130). The SMS message and attached inbound telephone number is then sent to the subscriber (step 140). The subscriber selects the SMS message whose underlying message the subscriber wishes to hear (step 150) and initiates a call using the inbound telephone number (step 160). The inbound telephone number of the incoming telephone call from the subscriber is identified from the telephone line on which the telephone call is received (step 170). The telephone number of the subscriber is then identified

using a caller identification technique (step 180). The underlying message is then identified in the table using the identified inbound telephone number and the subscriber telephone number (step 190) and output to the subscriber (step 200).

While the methods and apparatus disclosed herein may or may not have been described with reference to specific hardware or software, the methods and apparatus have been described in a manner sufficient to enable persons of ordinary skill in the art to readily adapt commercially available hardware and software as may be needed to reduce any of the embodiments of the present invention to practice without undue experimentation and using conventional techniques.

While the present invention has been described with reference to a few specific embodiments, the description is intended to be illustrative of the invention as a whole and is not to be construed as limiting the invention to the embodiments shown. It is appreciated that various modifications may occur to those skilled in the art that, while not specifically shown herein, are nevertheless within the true spirit and scope of the invention.

CLAIMS

What is claimed is:

- 1 A method for identifying a message selection made at a mobile station (MS), the method comprising the steps of:
 - uniquely associating an inbound telephone number with a message;
 - attaching said inbound telephone number to said message;
 - sending said message and said attached inbound telephone number to an MS using an MS telephone number associated with said MS;
 - maintaining a unique association between said message, said inbound telephone number, and said MS telephone number;
 - selecting said message at said MS;
 - calling from said MS said inbound telephone number attached to said selected message;
 - identifying said inbound telephone number of said telephone call;
 - identifying said MS telephone number of said telephone call; and
 - identifying said message associated with said inbound telephone number and said MS telephone number, thereby identifying said message selection made at said MS.
2. A method according to claim 1 wherein said uniquely associating step comprises uniquely associating a different inbound telephone number with each of a plurality of messages destined for said MS.
3. A method according to claim 1 wherein said selecting step comprises displaying said message on a display.
4. A method according to claim 1 wherein said calling step comprises activating a calling mechanism at said MS which automatically dials said inbound telephone number attached to said

selected message.

5. A method according to claim 1 wherein said identifying said inbound telephone number step comprises determining via which telephone line said telephone call is received and identifying said inbound telephone number associated with said telephone line.

6. A method according to claim 1 wherein said identifying said MS telephone number step comprises identifying using Automatic Number Identification (ANI).

7. A method according to claim 1 wherein said message is a Short Message Service (SMS) message.

8. A method for outputting an underlying message based on the identification of an associated message, the method comprising the steps of:

creating an associated message identifying an underlying message;

uniquely associating an inbound telephone number with said associated message;

attaching said inbound telephone number to said associated message;

storing said associated message and said attached inbound telephone number to an MS using an MS telephone number associated with said MS,

maintaining a unique association between said underlying message, said inbound telephone number, and said MS telephone number;

selecting said associated message at said MS;

calling from said MS said inbound telephone number attached to said selected message;

identifying said inbound telephone number of said telephone call;

identifying said MS telephone number of said telephone call;

identifying said underlying message associated with said inbound telephone number and said MS telephone number; and

outputting said underlying message.

9. A method according to claim 8 wherein said creating step comprises forming said associated message from any of a body portion and a header portion of said underlying message.

10. A method according to claim 9 wherein said creating step comprises forming said associated message using optical character recognition (OCR) on a printed form of said underlying message.

11. A method according to claim 9 wherein said creating step comprises forming said associated message using speech-to-text conversion on a spoken form of said underlying message.

12. A method according to claim 8 wherein said outputting step comprises performing text-to-speech conversion on said underlying message.

13. A method according to claim 8 wherein said outputting step comprises playing an audio recording of said underlying message.

14. A method according to claim 8 wherein said associated message is a Short Message Service (SMS) message.

ABSTRACT OF THE INVENTION

A method for identifying a message selection made at a mobile station (MS), the method including the steps of uniquely associating an inbound telephone number with a message, attaching the inbound telephone number to the message, sending the message and the attached inbound telephone number to an MS using an MS telephone number associated with the MS, maintaining a unique association between the message, the inbound telephone number, and the MS telephone number, selecting the message at the MS, calling from the MS the inbound telephone number attached to the selected message, identifying the inbound telephone number of the telephone call, identifying the MS telephone number of the telephone call, and identifying the message associated with the inbound telephone number and the MS telephone number, thereby identifying the message selection made at the MS.

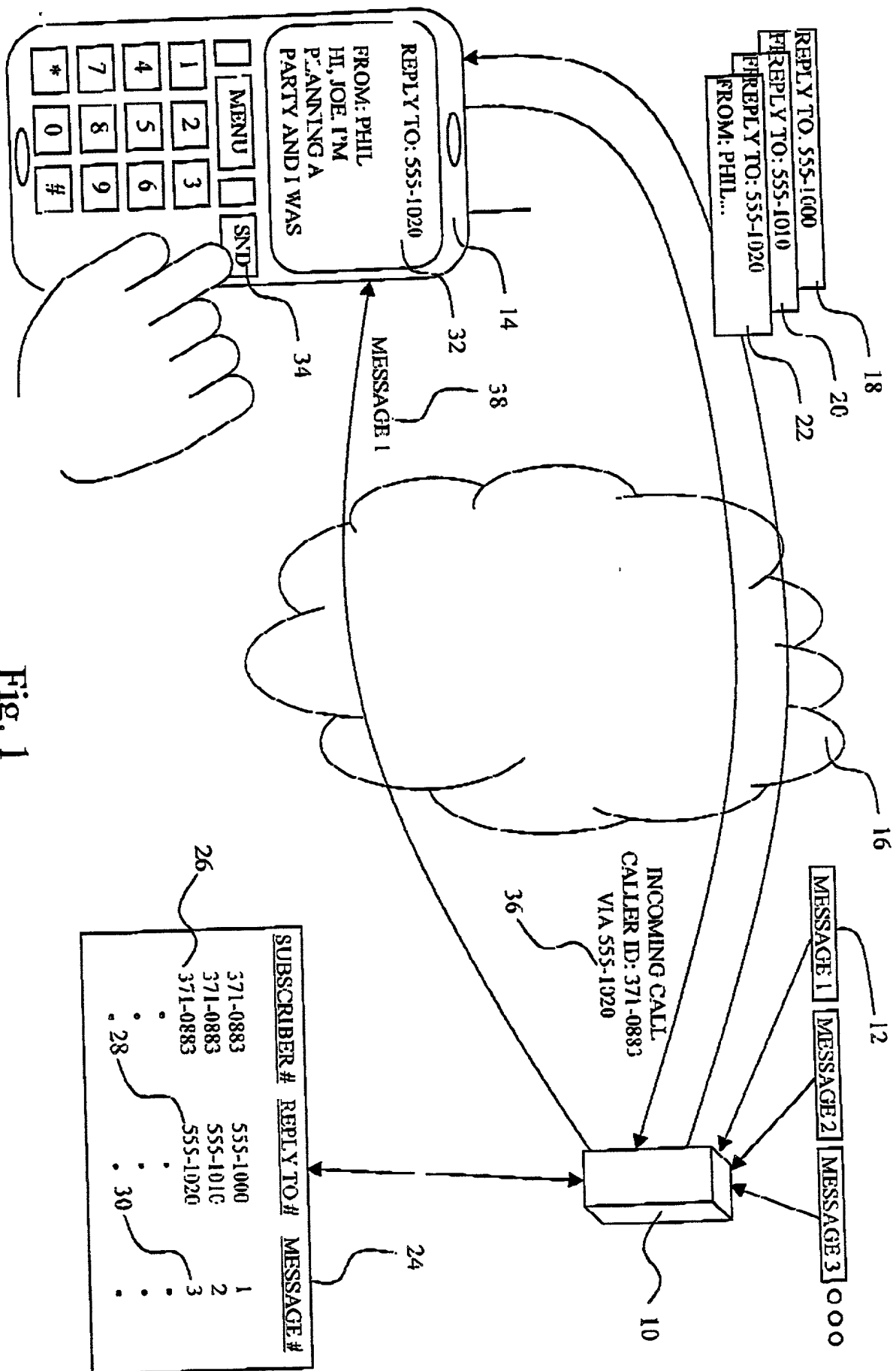


Fig. 1

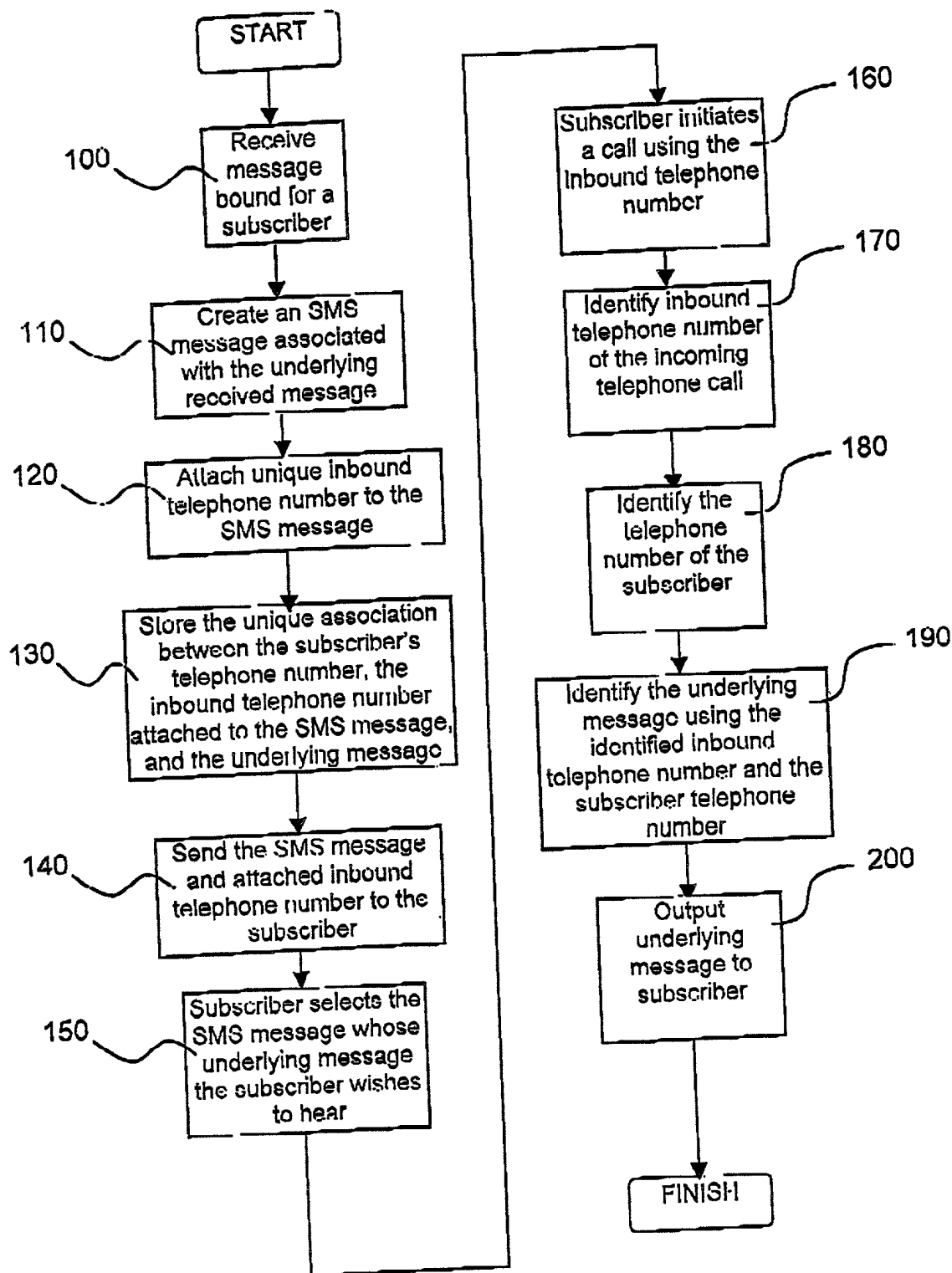


Fig. 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DECLARATION FOR PATENT APPLICATION

INVENTOR(S): LEVIT, Guy; CAMIEL, Noam
DAVID, Eli; and SHAPIRA, Gil

TITLE : MOBILE STATION (MS) MESSAGE SELECTION
IDENTIFICATION SYSTEM

DOCKET NO. : P-2853-US

TO THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS:

As a below named inventor, I hereby declare that:

This declaration is of the following type: (check one applicable item below)

- ☒ original
☐ design
☐ supplemental

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application do not check next item; check appropriate one of last three items.

☐ national stage of PCT

And is a

- ☐ divisional
☐ continuation
☐ continuation-in-part (CIP)
of U.S. Patent Application .

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **MOBILE STATION (MS) MESSAGE SELECTION IDENTIFICATION SYSTEM**, the specification of which is attached hereto unless the following is checked:

☐ was filed on as United States Application Number or PCT International Application Number , and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 (see last page attached hereto).

2

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a) - (d) or 265(b) of any foreign application(s) for patent or inventor's certificate or 365(a) of any PCT international application which designates at least one country other than the United States of America, listed below and have also identified below any foreign application for patents or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Applications:

Priority Claimed:

(Number)	(Country)	(Day/Month, Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

(Application No.)	(Filing Date)	(Status - patented, pending, abandoned)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the National or PCT international filing date of this application.

(Application No.)	(Filing Date)	(Status - patented, pending, abandoned)

(Application No.)	(Filing Date)	(Status - patented, pending, abandoned)

As the inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the U.S. Patent and Trademark Office connected therewith. Name and registration number are listed below.

HEIDI M. BRUN	34,504
JEROME R. SMITH JR.	33,684
MARK S. COHEN	42,425
DANIEL J. SWIRSKY	45,140
NICHOLAS AQUILINO	24,527
JOHN L. WELSH	33,621
HOWARD N. FLAXMAN	34,595

Please send correspondence to: Direct telephone calls to:
JOHN L. WELSH JOHN L. WELSH
AQUILINO & WELSH (703) 920-1122
2341 Jefferson Davis Hwy.
Suite 112
Arlington, Virginia 22202

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor:

LEVIT, Guy
Residence : 8 Moshe Vilensky Street, Tel-Aviv 66098, Israel
Citizenship : American and Israeli
Post Office Address: Same

Date: 22/11/99 Signature: Guy Levit

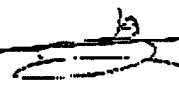
Full name of second joint inventor, if any:

CAMIEL, Noam
Residence : 39 Anatot Street, Tel-Aviv 69080, Israel
Citizenship : Israeli
Post Office Address: Same

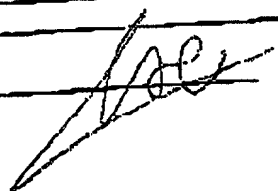
Date: 22/11/99 Signature: Noam Camiel

4

Full name of third joint inventor, if any:

DAVID, EliResidence : 10 Shaul Hameloch, Tel-Aviv 64733, IsraelCitizenship : IsraeliPost Office Address: SameDate: X 22/11/99Signature: X 

Full name of fourth joint inventor, if any:

SHAPIRA, GilResidence : 4 Habaal Shem Tov, Tel Aviv 46342, IsraelCitizenship : IsraeliPost Office Address: SameDate: X 22/11/99Signature: X 

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim is issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.90. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim;

or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.